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ABSTRACT

An overview is provided of curriculum management and "mapping," an auditing technique for assessing the content, time, and sequence of the taught curriculum as reported by the teacher. The general notion of management is first discussed in terms of three basic kinds of activities: defining purpose and mission, configuring available resources (people, time, and material), and using feedback to make necessary adjustments. The concept of curriculum is then defined etymologically as a means to a specific end (which must be clearly defined). The curriculum is conceived and discussed in terms of three "circles": the real (i.e., taught) curriculum, consisting of time and content; the written or prescribed curriculum; and the tested curriculum. These three circles get out of alignment because of design problems (breakdown between prescription and test), delivery problems (breakdown between prescription and teaching), or sequence problems (between teaching and testing). Curriculum mapping, then, is a method for bringing these three circles into alignment by monitoring the taught curriculum to evaluate the overall program. Examples are provided, along with a detailed "implementation kit" for curriculum mapping. (TE)

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CURRICULUM MAPPING AND MANAGEMENT

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Today I will provide an overview of curriculum management and mapping. Mapping is an auditing technique for looking at the taught curriculum as reported by the teacher. Mapping deals with three things: it deals with the content of what was taught, the time spent in teaching, and the sequence of what was taught. Later I will explain how that fits into the notion of management, but first I want to present the basic concepts, ideas, and terminology of curriculum mapping and management, talking about management first and then mapping.

It is important to realize that curriculum management is different from curriculum development. A curriculum developer may not have any responsibilities for implementing, monitoring, and/or changing a curriculum. Typically, in a university course on curriculum, a lot of time is spent on development theory, but not much, if any, time is spent on the management of that curriculum once it is in place in a school system. The principal or superintendent has responsibility for the implementation of the curriculum and for determining whether or not it is effective.

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People in the school district who have responsibilities for the management of the curriculum are curriculum generalists, rather than curriculum specialists; i.e., they are not subject area people. They have responsibilities for the broad range of curriculum that exists in their building, program, or district. Although mapping is a very useful technique for any subject area, and although subject area people use it, the real genius of mapping is its ability to give a broad picture of the taught curriculum. It gives principals and other instructional leaders a handle on the curriculum that they never had before.

Management

The function of the management of anything (whether it be the curriculum or the cafeteria program) is to insure that what we want to have happen, happens. In this respect, the classroom teacher is the basic manager of the educational enterprise. The reason that we put a teacher in a classroom is to manage something called learning. Management of the educational process is called instruction, or teaching, and the teacher is the manager of learning. We believe that by putting a teacher in a classroom, something happens that is regular and consistent, and is deemed vital by our society. We can extend the same rationale to a building principal. The reason that we have a principal in the building is that something happens that wouldn't happen as regularly if the principal were not there. If that's not true, we don't need a principal.

In the job of management, there are three basic kinds of broad activities that should be carried out. The first responsibility of anybody involved in management is to define the purpose and mission of whatever it is that you're about. And that is in terms that are accessible, so we

know whether or not it happens. The second thing that's very important is to configure or shape the available resources. The third tning managers do is to utilize feedback to make adjustments that are required. Feedback can come in a variety of forms; it can be informal or formal. Formal feedback is in the form of a rating or a test score. Informal feedback can be a letter or a complaint. These are the three functions of management, whether you are a manager of IBM, or a manager in any area.

I want to point out the difference between effective and efficient. They're not the same. When you take the resources that are provided and you get the results that the organization wants, we say that you have been effective. You might not have been efficient. Another word that sometimes stands for efficient is cheap. You know it's possible to be cheap and not effective. We can spend very few dollars but not get the results. Effectiveness relates to the objectives--the reason you are there. If you accomplish those objectives, that's one thing; if you don't, you have not been effective. It's also possible to overspend your budget and not reach your objectives; then you are neither effective nor efficient.

Resources. There are only three resources available: people, time, and material. Material includes all inanimate objects such as buses, books, and buildings. As a person who exercises responsibilities for managing, you are expected to take on three general or generic management tools. Budgets, schedules, and curriculum are the three basic management tools that we use to shape our resources. Every human organization has a curriculum. One of the things that enables us t nderstand the function

of curriculum in schools is to understand its function in other organizations, even though they may not call it a curriculum.

Curriculum

Before we talk about curriculum, we have to define it. Curriculum is a Latin word. As a noun, it refers to a lap, a race, a racetrack, a path, a road, or a way. Figuratively speaking, when you develop a curriculum, you are developing the student's career; the student's career is a means to the student's life. From the Latin perspective, the curriculum was a means to an end. It was a road to get some place. You have all heard the saying, "If you don't know where you're going, then you'll probably end up some place else. Or it doesn't really matter where you end up." A lot of school districts are run like that. They're very efficient but not very effective; they don't have the foggiest idea where they are going. If a curriculum committee understands what curriculum is, the first thing that they will do is to define what the curriculum is to accomplish; then they will write the curriculum. You define the end first. The curriculum becomes the means that you use to reach the end.

If you don't know what the curriculum is supposed to accomplish, then any curriculum is as good as any other. Any road will take you there if you're not fussy about where you end up. If you don't know what your objectives are, any textbook is as good as any other. A curriculum is deliberately selected to get us to a specific place. I call this the "lean and mean" definition of curriculum. If you know what the curriculum is to accomplish, then you will know which courses will not reach those objectives, and you can get rid of them. If you don't know what your objectives are, you will probably have more courses than you

need. Then you have to fall back on the definition of a good curriculum as being one that includes everything and excludes nothing. That's what I call the large "tub of jello" definition. It includes everything and is so flexible that it's moving around all the time.

The three elements of curriculum that we have traditionally tried to manage are content, time, and sequence. These manageable elements of curriculum are answers to very simple questions that every human organization asks and answers. The first question is, "What do we do?" Because organizations are different and purposes are different, there are many different answers. Think for a moment of the organizations which you belong to besides your work organization. You belong to religious, fraternal, social, and recreational organizations. A bowling league has a different curriculum than a bridge club, or a lodge, or a church. The answer to that question is called the content, and in the literature of time on task, that is called the task. The second question is, "How much time are we going to spend on this?" The third question is, "In what order do we do it?" Those are the three questions by which a curriculum is created.

There are two kinds of curriculum operating in the schools--the implicit curriculum and the explicit curriculum. The explicit curriculum is the one that we typically think about; it is a plan, a document, or a guide. The implicit curriculum is the curriculum the teacher actually teaches; there may or may not be a guide. Long before the curriculum is explicit, it's always implicit. What we write down is a series of decisions about what, how much, and in what order. A curriculum can be operating in a school where there is no curriculum guide.

There are three motivating forces that cause educators (or anyone in a human organization) to move from an implicit to an explicit curriculum. The first reason is that some purposes are designated as more important than others. When some courses, classes, or subjects are said to be more important than others, we say that they are required, minimum, basic, or core. Somebody (the legislature, a national study, or we ourselves) decides that of all the things that children might learn or might be taught, these are things which they must be taught or they must learn. That is one of the major things that causes us to draft a plan--to make sure that something happens. Education is not very different from any human organization that writes a plan to make sure something happens.

The second driving force for a plan or a curriculum is scarcity or economy. We have long since discovered that schools cannot do everything and that the people cannot afford for us to do everything. We have to make decisions based upon scarcity. Let me put it into a different context for you. If you had all the money that you needed in your program, you would not have to have a budget. A budget would be irrelevant. I don't know of very many school districts like that and I've never heard of an educational agency that had all the money that it needed. It seems to be a general human condition that we have more things to spend it on than what we have to spend; i.e., we have more needs than we have resources. Something has to give. In the budgetary process, a budget reconciles our resources to what we can spend those resources on. A curriculum does the same thing with a different commodity: time.

In the United States, children attend school, K-12, for about 14,000 hours. That is only 585 twenty-four hour days, or about 2,340 six-hour

days. Every teacher will tell you the same thing: there is more to teach than there is time to teach it in. If you have only 585 twenty-four hour days, you must make a choice about what goes on, because you don't have all the time in the world. So, the basic question that the curriculum answers is framed one of two ways: of all the things that you might teach, what are the things that you must teach? Or, to put it another way, of all the things that children might learn, what are the things that they must learn? You come to the inescapable conclusion that you have a very limited chunk of time.

It's been said that educators are great at addition, but they can't subtract. We keep adding to the curriculum, but nobody ever takes anything out. The next time somebody comes to you with a good idea for the schools, such as fire prevention, or humane treatment of animals, be sure to give them a list of all the things that schools are now responsible for and ask them what to take out. We already have responsibility for more than we can deliver. A friend of mine, who was an engineer, said that if we educators were engineers, we would have flunked because we have built a bomb that is bigger than the plane to fly it in. That is, if the curriculum is the bomb and the amount of instructional time that is available is the plane, your plane can't take off; it just sits there because the bomb won't fit. We all know that every day, every teacher scales that bomb down so that it will fit into the plane. What do they leave out? Fortunately, most teachers have a pretty good idea what to leave out. They leave out fire safety, humane treatment of animals, and all the other extraneous curriculum that somehow the legislature makes us responsible for delivering.

Just to give you some examples, in New Jersey there is a state law which says that all school districts shall teach flag day, arbor day, and Commodore John Berry day. I couldn't find anybody who had ever even heard of Commodore John Berry. In Pennsylvania, they have a law which says that on Emma Willard's birthday you must teach about her virtues. She was the most virtuous woman in the state of Pennsylvania, because according to the law, every teacher must teach about her virtues. Emma Willard is the founder of the first institution of higher education for women in the state of Pennsylvania. In Michigan, there's a law that says that on Will Carlton's birthday (Will Carlton was a famous Michigan poet who wrote "Over the Hill to the Poor House") everyone should read aloud his poetry. You can find things in the codes of all states that add things to the curriculum. But nobody ever takes anything out of the curriculum. So, scarcity is a driving force.

The third thing that's a driving force for the creation of a curriculum is something called rules. Rules are things like P.L. 94-142 and union contracts. Those are the driving forces for the creation of a plan by which we move from the implicit to the explicit curriculum.

Another way of conceptualizing this is that we wouldn't need a curriculum at all if we could remove the three conditions that I mentioned. If a school district could say that any purpose or outcome is as good as any other, they wouldn't need a curriculum. It's only when they say that there are certain things that children must learn, or there are certain things that we must teach, that they need a curriculum. Secondly, if a district has all the time, money, and materials that they need, they wouldn't need a curriculum. And finally, if there aren't any rules about

how we are to do things, then we wouldn't need a plan. Since those conditions are non-existent, we end up focusing on these manageable elements of curriculum. The curriculum becomes a tangible way to deal with the shortage of resources. When a school district realizes that they must do a better job with the existing time, with the existing staff, and perhaps with no additional funds, they arrive at a point where they say, "How can we improve the power of our curriculum, which is our explicit plan? How can we make it more effective; that is, get better results?"

If you want to make the curriculum a more powerful instrument in schools, to get better results, there are three things that must be present in the school district or program. The first thing that has to be present is testing. I really prefer the word assessment, because assessment includes the concept of testing, whereas testing does not necessarily include assessment. What we're really talking about is feedback. We have to have some information coming back to us about how close we got to those objectives that we set out to accomplish. There are two kinds of feedback: formal and informal. Formal feedback means we have prestructured the response of the people that give us feedback. Informal feedback is not prestructured by us, prior to the time it comes to us. So the first thing that has to be operating in a program or a school or a school district is the feedback function.

The second thing that must be operational in a school district is a curriculum guide. A curriculum guide is the product of a prescription. Prescriptions exist to answer the question that I posed to you earlier: of all the things that we might teach, what are the things that we must

teach? Or, of all the things that pupils might learn, what are the things that they must learn? The Board of Education answers that question by putting together a policy, the legislature answers it by passing a law, teachers answer it by putting together a lesson plan. The general rule of thumb is this: the closer you get to the operational level of any business, and ours is education, the more detailed the plans become. Typically, one expects to find more details in a lesson plan than in a board policy. In a drawing we would have arrows connecting the assessment and prescriptive function.

Now, if the assessment function tells us what we've done, and the prescriptive function tells us what we should do, then the third function, by definition and by logic, must be the function that we actually do. And that is the teaching function. That is where curriculum mapping comes into play. Curriculum mapping is an analysis of three things as they relate to the curriculum: content, time, and sequence of the taught curriculum. The name that we give to that is quality control of the functions of the written curriculum, the taught curriculum, and the tested curriculum. When these functions are being performed in a school district, they are connected, linked, or aligned.

Think of the three functions--the written, taught, and tested curriculum--as circles. One circle is our taught curriculum, which we call the real curriculum. We call it the real curriculum because that's the only one the student ever knows, the one that the teacher has decided to teach. The real curriculum has two parts. It has a what part, which is the content, or what we would now call "the task." And then there's a different modality and methodology of delivering that curriculum, which

we call "the time," and the time is spent on the task. This circle represents time on task, or the taught curriculum.

Now think of a second circle being the written curriculum. The written curriculum exists in a variety of formats, the most common being the textbook. Any overlap in these two circles represents what the teacher actually taught that is in the curriculum guide or textbook. That is called the congruence or alignment between the written curriculum and the taught curriculum. The non-overlapping areas of the circles represent what was in the guide that the teacher didn't teach, and what the teacher taught that wasn't in the guide. In some districts, these two circles don't touch one another at all, which means that we can sometimes spend a lot of time and money on curriculum guides that nobody uses.

The third circle is the tested curriculum. This could be a state competency test, the Metropolitan, or whatever. Where all three circles overlap represents the curriculum the children are tested on, that the teacher taught, and that was in the curriculum guide. Part of our diagram represents what the students were tested on that was in the curriculum guide but was not in the classroom. Part of it is what the test tested that was in the classroom but wasn't in the curriculum guide. And the tested curriculum that doesn't overlap anything represents what the children are being tested on that wasn't in the guide or in the classroom. Now there is one cardinal rule that you should remember; it is the universal finding of all of our research and practice as it relates to the written, taught, and tested curriculum. Children do better on tests

if you teach them what you test them on than if you don't. There is not a shred of research that contradicts that.

Once you understand the relationship between the written, taught, and tested curriculum, you can use this concept to help a school district get better results. When you get your feedback, which is usually in the form of a test score, you have to know whether a low score or an unacceptable score is the result of a design problem or a delivery problem. This is something we rarely think about, but it is an important difference.

A design problem occurs when there is a breakdown between the prescription and the test. For example, if teachers are using a textbook, is it congruent with or aligned with the test? I've worked with many districts who have begun using a continuous progress reading program that was not congruent with the standardized test they use. The result was their test scores declined because teachers were spending more time on things that the test did not assess. You must be sure that whatever you put into the hands of the teacher to teach is aligned with, or congruent with, the test. When you get low test scores, you need to look first at the relationship between the prescription and the test. Concentric circles would mean a 100 percent overlap.

You can be sure that your test assesses your objectives if you develop your prescription or objectives first and your test second. But in reality, many districts are stuck with the test because of state mandates. If the test cannot be changed, identify the contents, skills, and attitudes that are measured in the test, and develop a checklist (which becomes the prescription). Give that to the teaching staff to teach, and you will have congruence with the test. The trade off is that instead of

the curriculum driving the test, the test is driving the curriculum. Another way of saying it is that the people who wrote the test determined your curriculum, and a lot of people have no problem with that. All I'm saying is that when you're congruent, or aligned, you get better results than when you're not.

The second reason that we have a breakdown is called the delivery problem. When you are assured by your analysis that the prescription fits the test, you have a delivery problem. Teachers aren't using the prescription. This is a different problem and it calls for a different solution. The solution to the design problem is to correct the design error. The solution to a delivery problem is the traditional one of monitoring and supervision. The principal, or whoever has the responsibility for supervising and monitoring what teachers do, must make sure that the teaching staff uses the prescription.

The third breakdown is sequence. This happened in a school district that I worked in. They were concerned about their geography scores, and they did everything right. They wrote their geography objectives first. Secondly, they bought a textbook that included their geography objectives. Thirdly, they did inservice staff development activities and made sure that all the teachers understood the objectives. They showed the teachers how to use the textbooks. Then they went and observed the teachers, but they still got terrible scores. Then one day they asked the simple question: When do we normally teach geography? And when do we normally test for geography? They found out that they had consistently tested children on geography two weeks before they taught them the geography unit. Everything was right except the sequence. The solution to this

problem is relatively simple. First you fix the date on which the test occurs, and then you tell the staff to teach it before that time.

The fourth problem is the one in which the connections are there. The written, taught, and tested curriculum are together. But we don't spend enough time on mastery for children to be able to get the results. Somehow we miss the boat with enough children so that we really don't get the bang for the dollar that we put into getting the congruence in the first place.

The final reason is that there is no congruence between the method that we use to teach and the method that we use to test. The best example is spelling. The way we teach spelling is that on Monday we introduce the words, on Tuesday we use the words in a sentence, on Wednesday we have a pre-test, on Thursday we study the words we missed, and on Friday we test them by asking them to write the words. But when they go into a standardized test, children are given four ways to spell a word and they are asked to check the one that's right. That's a word recognition skill.

Let me give you an example of how important it is to teach kids how to take a test. In a district in Georgia, they selected a third grade class at random. They never changed any answers, but cleaned the answer sheets by making the bubbles straight, and erasing any extraneous marks. The pupils' test scores improved by 12 points on the average, by just having a clean answer sheet. They post-tested another randomly selected class whose answer sheets were not cleaned up, and their scores improved by only one or two items. You must teach kids how to take a test and teach them what a clean answer sheet looks like.

Curriculum Mapping

Curriculum mapping helps us get a handle on the relationship between the actual taught curriculum and the designed or prescribed curriculum. It is a way to audit or monitor the taught curriculum.

Curricular mapping is not a way to evaluate a teacher; it is a way to examine a program. If you're interested in evaluating a teacher, then you're interested in curriculum "zapping." I think that the key to successful mapping is a problem-solving, collegial approach. My approach to teachers has been that mapping will be the solution to a teacher problem; I try to show teachers how curriculum mapping will make their jobs easier. I tell them what they already know: that their jobs are a lot bigger than the time available to them. Mapping helps us know what teachers drop out of the curriculum. We accept that all teachers do it; that's the way it is and nobody's going to get punished for telling us about what they drop out.

If you're working in a district which has a poor environment in terms of some animosity between the teachers and administration or board, I suggest that the board adopt a policy which states no mapping data will be used for evaluation of personnel. It will only be used to evaluate programs. Another way to guarantee that it not be used for teacher evaluation is through anonymity. When the data come to the central office for scoring, there are no names on them. The more open and professional the environment, the better use you will be able to make of mapping as a tool to improve the alignment between the written curriculum, the taught curriculum, and the tested curriculum.

I'd like to share with you some examples of curriculum mapping. (Refer to "The Implementation Kit" in Appendix C.) The map on page 4 of the Kit" was used by Fresno Unified, a California district of 50,000 students. It is the simplest kind of mapping and was used for two weeks to see how much of the curriculum was actually being delivered. They didn't map at the level of objectives inside the curriculum; they mapped only for very broad areas. Notice that they also asked about non-curricular areas such as assemblies, discipline, testing, collection drives, and other things that subtract from instructional time. If a school or a classroom is well managed, that non-instructional time will be low. When it is not low, you need to work on some basics in school and classroom management that will increase instructional time. The results told us that for the most part, science does not exist at the elementary level.

Page 5 shows a sample map for a secondary school. Here we were looking at a specific course, Introduction to Physical Science, in a junior high school. The teacher indicates how much teacher time is spent on the 22 objectives or strands identified for this course. Remember that mapping is a collection of teacher time, not student time. It is a teacher's self-analysis of time spent on the taught curriculum.

On page 6 in Appendix C is an example of mapping in a high school course called U. S. History and Government. The data are tabulated in two ways. The percentages across the bottom indicate the percentage of the curriculum (identified by 29 concepts) that was taught by each teacher. For example, teacher A taught 83 percent of the concepts and teacher B taught 49 percent. The figures on the far right column tell you how much time the average teacher spent on each concept.

In describing the results of mapping, we have invented some terminology to explain what was found. One such term is slack. It means there is a certain amount of slack in terms of the relationship between the curriculum that was taught and the time required. The opposite case is one in which a semester course can't be covered in a semester--another example of the bomb being bigger than the plane. When you adjust the curriculum, you want to know how realistic the time frames are. If you have any slack in your curriculum, you can take it out to make room for other areas without reducing the overall curriculum. Mapping is a beautiful device to tell you how much slack you have in the curriculum, and there's more slack in most schools than you might think.

An example of sequential mapping data can be found on page 7. This was done in an elementary school in New Jersey. New Jersey has a statewide curriculum and these examples were taken from the statewide basic skills test. At the end of each week, the teacher indicated how much time was spent on each skill. For example, Jeff Jones spent 20 minutes on the comma in week one, 5 minutes in week two, none in week three, and so on. In the right hand column, you can see where he spent most of his time in that 10-week period. He spent 1,175 minutes on spelling, or 76 percent of the total language arts time available; 5 percent on proper nouns; and 4 percent on beginning sentences. Across the bottom you can tell during which weeks he spent the most time in language arts.

When you map at the end of each week, you get the third component of mapping, which is the sequence. If the items that appear down the left are to be taught sequentially, with weekly mapping, you will get what's

called a stairstep. The big blocks of time will move down the page in stairstep fashion in a sequentially taught curriculum. A good example of that is on page 8 (Appendix C) where we mapped science by grade levels at an elementary school. Notice the semblance of stairsteps. You see that 983 minutes were spent on Material Objects in kindergarten, and 343 minutes in the first grade. That represents a break; the biggest block of time should be showing up in Organisms. But you see that the second grade teacher picked up Interaction Systems. The third grade teacher sort of blew it. The fourth grade teacher picked up Relative Position and Motion, and the fifth grade teacher spent time on Energy Sources. You can definitely see the breakdown in the delivery of this curriculum, which was supposed to be taught sequentially. Notice that 010 and 011 didn't get time at all. If you were to design an elementary science curriculum, would you design it so that the greatest amount of time on science was in kindergarten? That is how it was operating in this school.

If you want to find out whether a sequential curriculum is being taught sequentially, you must gather your data at least weekly or biweekly. If you got the data only at the semester end, you would know what was taught and how much time was spent, but you wouldn't know when in the semester it was taught. On page 9 of that same document, the data are presented on a district-wide basis. You begin to see a stairstep pattern, but you can also see some breakdowns.

On pages 10 and 11 are the rudiments of a microcomputer program which you can use to crunch your mapping data. It is not a difficult thing to set up on a computer. Page 12 contains the names of the school

districts which have used curriculum mapping. It tells you how much of the curriculum was mapped and when.

Question: How long do you continue mapping?

Answer: It depends on what kind of decisions you want to make. If you want to know whether or not your curriculum fits into a school year, you have to map the whole year. If you want to know if something is taught or not, you can sample for a two-week period. You will notice there are 10 steps to consider, with each step having multiple sub-questions. (See pp. 1-2 in Appendix C.) Those will answer some of the questions you have: How often do I collect the data? Do I map all of language arts or just spelling? The answer to each question depends on the kind of decision you want to make. Do you want to make decisions about the whole language arts curriculum or just the spelling curriculum? If it's spelling, you map only spelling; if it's language arts, you have to map all of language arts. If you want to know whether certain things are taught in language arts, then you may only need to map for a month. If you want to know if the language arts curriculum is realistic on a year-to-year basis, then you have to map the whole year.

The next question is, how often do you gather the data? Every week? Every day? Every month? Every semester? If you don't want to see the sequence, the map ends at the semester. In elementary schools you have to map more often--either weekly or every two weeks. The elementary curriculum is more skill-driven and teachers can't remember over a long period of time. Secondary is more content-driven. It's easier to remember, for example, how much time you spent on the Roman Empire than how much time you spent on diphthongs. A teacher would be

hard pressed to pick that out of their school day after three weeks. The more isolated the skills are, the finer they are, the more often you have to map.

HANDOUTS

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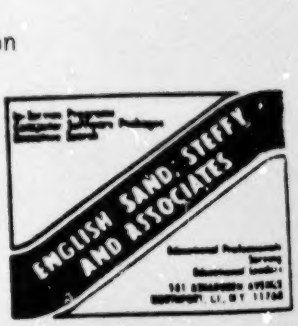

THE IMPLEMENTATION KIT: CURRICULUM MAPPING

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QUESTIONS TO CONSIDER IN PLANNING TO MAP YOUR CURRICULUM

Basic Decisions In Curriculum Mapping

1. What to map?

What areas of the curriculum will be mapped?
How have you determined that these are the proper areas?
- -Test scores
- -Opinion/observation
- -Survey
- -Other

2. Level of Specificity of Mapping?

How much detail will be included in mapping?
What are the major considerations involved in selecting the level of detail?
- -Test data/match to mapping data
- -Existing curriculum guides level of detail
- -Length required of teacher response
- -Mandates
- -Local decisions
- -Capability of data collation being automated

3. How Often Will Mapping Occur?

How often will the mapping data be recorded?
How often will mapping data be collated?
How will mapping data be reported in a time sequence (daily, weekly, monthly, semesterly, yearly?)

4. How Will Mapping Data Be Collated?

Who will gather the data?
How will the data be transferred to collation sheets?
What is the relationship between manual/automation data collation?
What statistical analyses will be utilized in collation?
How will the collation analyses be reported?
Will a special computer software program have to be developed? If so, who will develop it? How will it be tested?

5. How Will Mapping Data Be Reported/Interpreted?

What kinds of interpretation will be provided?
What are the major questions which must be answered with mapping data?
What are the boundaries of decision-making with mapping data?
What will be done with mapping data?

QUESTIONS TO CONSIDER IN PLANNING TO MAP YOUR CURRICULUM (Continued)

6. What are the Anticipated Benefits of Mapping?

What are the major anticipated benefits of mapping? To whom will the benefits accrue?
In what ways are students and teachers expected to benefit from mapping?
In what ways will the system benefit?

7. What Steps/Policies Must Be Considered Prior to Mapping?

What previous exposure has the staff had to mapping?
How would you assess the climate of school operations at the present time?
What steps must be taken to ensure a successful experience with mapping?
What are the anticipated barriers to undertaking mapping? How will they be tackled and resolved prior to the mapping experience? Who will do this?
What procedures and/or policies must be adopted by the Board or administration to ensure a positive staff response towards the idea of mapping? How will this be done? Who will do it?

8. What Kinds of Followup Activities/Experiences Are Anticipated After Mapping?

What is anticipated as the major types of followup activities after mapping has occurred?
How will mapping be evaluated? How will it be known if mapping was a success or a failure?
How will mapping data be utilized to improve pupil achievement?
How will mapping data be employed to improve the process of curriculum development?
How would one know if more mapping were necessary after an initial experience with it?
What are the criteria by which you would know when to change the mapping experience?

9. What are the Major Costs Expected to Accompany a Mapping Effort?

Training/time and staff/consultants
Development of computer program
Development of mapping formats
Data collation (manual and automated)
Development of final report/recommendations
Changes in curriculum guides
Changes in the testing program
Changes in the evaluation system
Teacher and administrative time throughout the process
Other

10. Anticipated Sources of Funds to Underwrite Mapping Costs

Local
State
Federal
Private foundations, solicitations
Other

CURRICULUM MAPPING FORMAT

Type: Checklist Format A Elementary School Curriculum Review Report

School: _____ District: _____ Teacher's Name: _____

Grade(s)/Subject: _____ Mapping Period: _____

Instructions: Record each day the total minutes spent in each curricular area and non-curricular areas. Compute totals in minutes by week for each line. Total vertically by day for curricular area (line 17) and non-curricular each day (line 28). Compute total time per week (line 29). Do not count any activity twice (in more than one category). Total instructional time per day cannot exceed 265 for kindergarten, 265 for grades 1-2, 275 for grade 3, or 310 for grades 4-6. For total maximum time, add non-instructional time for your school.

	Time Distribution (in minutes)					
	May					Weekly
Curriculum Area/Topic/Skill/Subject	24	25	26	27	28	Total
1. Reading (formal reading instruction, follow-up)						
2. Spelling						
3. Oral Language						
4. Written Language						
5. Handwriting (formal instruction, drill only)						
6. Mathematics (formal instruction, follow-up)						
7. Science (formal instruction)						
8. Health Education (formal instruction)						
9. Art (formal instruction and follow-up)						
10. Music (formal instruction, listening)						
11. Physical Education (instruction plus play)						
12. Social Studies (history, geography, gov.)						
13. Career Education (non-duplicative time)						
14. Multicultural Education (formal instruction)						
15.						
16.						
17. Total Minutes on All Curricular Areas (lines 1-16)						
Non-Curricular Time 18. Attendance						
19. Assemblies						
20. Classroom Discipline						
21. Testing						
22. Collections, Drives						
23. Announcements						
24. Recess						
25. Lunch						
26. Other (Specify)						
27. Total Time on Non-curricular (18-26)						
28. Total Time Minutes per Day (17+27)						
29. Total Time per Week (17+27) 26						

SAMPLE: SECONDARY SCHOOL MAPPING FORMAT

Type: Checklist by Course

Teacher's Name: _____ Grade: _____ No. of Students: _____

School: _____ Course: Intro. Phys. Science

Enter class periods or portions thereof, i.e., .25 - .50 - .75 - 1.00 - 1.25 - etc.

Weekly data gathering (Complete by Friday of each week) Account for total class time each week						
Pupil contact	week					
days in week	days					
Discipline						
Clerical/Announcements						
Testing						
Equipment set-up time (within class period)						
Other Activities (Assemblies, field trips, etc.)						

STRANDS/OBJECTIVES

1.	Follow data collection procedures.					
2.	Use reference material to gain information.					
3.	Construct line graph from data.					
4.	Identify qualitative relationships between variables.					
5.	Interpret values from a graph.					
6.	Identify the problem in an investigation.					
7.	Identify common laboratory equipment.					
8.	Perform mathematical operations with decimals.					
9.	Convert SI and metric values.					
10.	Make observations of phenomena.					
11.	Propose conclusions based on data.					
12.	Identify sources of error in experiments.					
13.	Determine mass using a balance.					
14.	Measure metric dimensions of solid objects.					
15.	Apply formula V=LxWxH to solid objects.					
16.	Determine liquid volumes with graduated cylinder.					
17.	Determine liquid volumes by displacement.					
18.	Determine density of regularly shaped objects.					
19.	Determine density of irregularly shaped objects.					
20.	Classify substances by density.					
21.	Measure temperature using Celsius thermometer.					
22.	Measure thermal expansion of solids, gases.					

TYPICAL TWO DIMENSIONAL CURRICULUM MAPPING TABLE

Theodore Roosevelt High School/Analysis of U.S. History and Government
Social Studies

Concepts Prescribed in the Curriculum Guide	Periods Reported Spent by Teacher on Concepts					ATS Average Time Spent
	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	
1. Federalism	.5	0	1	1	2	.90
2. Elastic clause	.5	.5	1	1	1	.80
3. Separation of powers	1	1	2	1	1	1.20
4. Checks and balances	1	1	2	1	1	1.20
5. Judicial review	1	2	1	1	1	1.20
6. Democracy	3	1	3	2	2	2.20
7. Republicanism	1	0	1	1	2	1.00
8. Capitalism	1	0	10	1	2	2.80
9. Socialism	1	0	0	0	0	.20
10. Communism	.5	0	0	0	0	.10
11. Fascism	0	0	0	0	0	0
12. Imperialism	.5	0	0	0	0	.10
13. Self-determination	0	0	2	0	0	.40
14. Isolationism	0	0	0	0	0	0
15. Bureaucracy	.5	0	0	0	0	.10
16. Nationalism	3	1	2	10	0	3.20
17. Sectionalism	2	1	3	5	2	2.60
18. Manifest Destiny	1	1	4	2	1	1.80
19. Ethnocentrism	2	0	3	.6	0	1.10
20. Assimilation	1	0	5	0	0	1.20
21. Industrialization	.5	0	10	2	3	3.10
22. Revolution	0	0	4	0	6	2.00
23. Alienation	0	0	4	0	6	2.00
24. Citizenship	2	.5	7	1	5	3.10
25. Compromise	1	2	5	5	2	3.00
26. Gerrymander	0	0	1	0	2	.60
27. Ethnic and minority groups	6	2	6	10	0	4.80
28. Women's Rights	1	1	4	0	0	1.20
29. Other concepts (racism, sexism, prejudice, antisemitism, etc.)	7	1	15	5	0	5.60
% of topics taught	83%	49%	80%	63%	56%	

AN EXAMPLE OF SEQUENTIAL MAPPING DATA

Teacher: Jeffrey Jones
Fifth Grade
Language Arts

	1 Week	2 Week	3 Week	4 Week	5 Week	6 Week	7 Week	8 Week	9 Week	10 Week	Total
Comma	20	5	0	5	5	0	0	0	0	5	40
Semi-Colon	0	0	0	0	0	25	25	0	0	0	50
Apostrophe	0	0	0	0	0	0	0	15	15	5	35
Begin sentence	0	10	10	30	5	5	0	0	0	0	60
Begin direct quote	0	0	15	0	0	15	0	5	0	0	35
Proper nouns	0	10	0	0	21	20	0	8	12	0	71
Proper adjectives	0	0	0	0	0	0	0	0	0	0	0
Title	5	0	0	0	0	0	0	0	0	0	5
The word "I"	0	0	0	0	0	0	0	0	0	0	0
Spelling	135	150	135	70	100	135	150	80	80	140	1175
Poetry	0	15	0	0	15	0	5	0	0	0	35
Outlining	0	0	0	25	25	0	0	0	0	0	50
Total	160	190	160	130	171	200	180	108	107	150	1556

Ten Weeks Areas of Greatest Stress

Spelling = 76%
Proper nouns = 5%
Beginning sentence = 4%

Largest Time Spent by Week in Language Arts

Week 6 = 200 minutes
Week 2 = 190 minutes
Week 7 = 180 minutes

SEQUENTIAL DATA WITHIN SCHOOL BY GRADE LEVEL/ONE YEAR

Topic/Area	Kindergarten	First	Second	Third	Fourth	Fifth	Total
Science Farragut School							
01- Material Objects	983	343	315	0	0	0	1641
02- Organisms	0	45	0	0	0	0	45
03- Interaction systems	0	10	360	103	0	68	541
04- Life cycles	0	0	0	0	0	0	0
05- Systems.variables	0	0	0	53	0	0	53
06- Populations	0	0	0	0	0	0	0
07- Rel. position/motion	0	0	0	38	105	15	158
08- Environments	0	0	0	0	0	23	23
09- Energy sources	0	0	0	0	0	205	205
010- Communities	0	0	0	0	0	0	0
011- Models, elct. magn.	0	0	0	0	0	0	0
012- Ecosystems	0	0	0	15	0	0	15
013- Nature study	0	0	0	198	0	0	198
	983	398	675	407	105	311	2879

Greatest Amount of Time Spent In Six Years of Science at Farragut	Number of Topics Taught
1. Kindergarten (34%)	1
2. Second Grade (23%)	2
3. Third Grade (14%)	5
4. First Grade (14%)	3
5. Fifth Grade (11%)	4
6. Fourth Grade (4%)	1

Topics Not Taught In Six Years

1. Life cycles
2. Populations
3. Communities
4. Models, electricity, magnets

Topics Which Received Greatest Emphasis in Science in Six Years

1. Material objectives (57%)
2. Interaction systems (19%)
3. Energy cources (7%)
4. Nature study (7%)
5. Relative position/motion (5%)
6. Systems/variables (2%)
7. Organisms (2%)
8. Environments (.007%)
9. Ecosystems (.005%)

SEQUENTIAL DATA WITHIN A SCHOOL DISTRICT

Topic/Area	Kindergarten	First	Second	Third	Fourth	Fifth	Total
Science							
01- Material objects	418	602	55	5		12	1092
02- Organisms	18	269					287
03- Interaction & Systems		52	413	82	8	12	567
04- Life cycles		57	229			61	347
05- Systems & Variables			53	304	25	20	402
06- Populations			42	340	6		388
07- Relative, position/ motion			1	7	596	65	669
08- Environments			2	5	98	88	193
09- Energy Sources			2		176	566	744
010- Communities					36	345	381
011- Models, Electricity, Magnets						12	12
012- Ecosystems				5			5
01 - Nature Study	72	91	56	85	11	77	392
Total	508	1071	853	833	956	1258	5479

Greatest Amount of Time Spent in Six Years in the District

1. Fifth Grade (23%)
2. First Grade (20%)
3. Fourth Grade (17%)
4. Second Grade (16%)
5. Third Grade (15%)
6. Kindergarten (9%)

Number of Topics Taught

10
5
8
9
8
3

Topics Taught For Less Than Sixty Minutes

1. Models, magnets
2. Ecosystems

Topics Which Received Greatest Time Stress in Science in Six Years

1. Material objectives (20%)
2. Energy sources (14%)
3. Relative, position, motion (12%)
4. Interaction & systems (10%)
5. Systems & variables (7%)
6. Nature study (7%)
7. Populations (7%)
8. Communities (7%)
9. Life cycles (6%)
10. Organisms (5%)
11. Environments (4%)

SPECIFICATIONS FOR THE DEVELOPMENT OF A COMPUTER PROGRAM

TO COLLATE MAPPING DATA

The map should be collated by:

- district (overall average time spent and standard deviation by variable or range by variable (objective)
- school by area (overall average time spent and standard deviation by variable or range by variable (objective)

Time is expressed in periods of fractional parts thereof.

What the program should do is:

- for each variable (objective) compute an average of all teachers' time spent for the district and then for each of the schools by area (such as social studies, music, art, physical education, etc.)
- print out a list of average time spent by variable from highest to lowest by district and by school and by area.
- compute the percentage of the required curriculum actually taught and not taught (this is a calculation of the number of variables for which zeros have been recorded at the end of the mapping period by school and by the district) as a fractional part of the total curriculum for each area.

Ideally, after each variable by class we should know how much time (on the average) was spent by district and school and then some idea of the range of variance such as the least amount of time and the greatest amount of time. This information is carried in the standard deviation but if this is not possible to compute the range is satisfactory.

The above calculations should also be possible for the "unique curriculum" as well.

Also, the general categories listed on the mapping sheet which capture "discipline, substitute, etc. should employ the same set of computations by subject area, school, and by the district.

Sample: Seventh Grade Social Studies

District Objective	District	District SD	District Rank	SCHOOLS A B C D E F
				X, SD, R (for each school)

Note: What this data shows above is by objective (or variable) the average or mean time for the district, the standard deviation or range of the rank (highest to lowest average time within the set of objectives or variables) and then the same data by school. In this way a school's mean, standard deviation and rank with variables could be compared to the district's and to other schools.

Follow the same procedure for the unique curriculum.

Sample: Seventh Grade Social Studies/Unique Curriculum

Same set up

The rank could be followed by the actual mean by school such as:

Junior high school name

Variable SS - 1 3rd (12.3)

This would mean that on variable SS - 1 within this specific junior high school this was the third ranking variable by average time spent which was 12.3 periods for the year.

Then the social studies department could compare how this variable was ranked by the other schools and to the district as a whole.

The percentage of the curriculum taught/not taught is a matter of simply converting all numbers (whether a fractional part of a period to the total possible) to a one or X and then computing the percentage taught irrespective of time to those not taught. This is called THE SCOPE OF THE CURRICULUM TAUGHT. For example if there were twenty variables in the social studies department and 10 were not taught at the end of the year, the data would show the 50% of the curriculum was not taught and then go on to say that of the 50% of the curriculum that was taught this was where the time was spent on the average.

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A LIST OF SCHOOL SYSTEMS WHICH HAVE UTILIZED CURRICULUM MAPPING

School District/and Administrator Responsible	Part of the Curriculum Mapped
Long Branch Public Schools 6 West End Court Long Branch, New Jersey 07740 Att: Superintendent of Schools	Grades K-5 in all elementary schools (7) in the district from September, 1980 through June, 1981. Data compiled by computer program.
Worthington City Schools 752 High Street Worthington, Ohio 43085 Att: Dr. Edward R. Lakey Superintendent of Schools	Mapping occurred during the 1979-80 school year at Worthington High School, grades 9-12, with a student population of approximately 2,262. Over 195 classes were mapped one or two semesters in all areas except driver education, special education, summer school and the Alternative High School.
Fresno Unified School District 3132 East Fairmont St. Fresno, California 93726 Att: Dr. Robert E. Case Assistant Administrator Curriculum Development	A two week mapping project was initiated at the elementary level in all subjects, and secondary school science was mapped as well during the 1981-82 school year.
School District No. 12, Adams County Northglenn, Colorado 11285 Highline Drive Northglenn, Colorado 80233 Att: Mr. Alex Reuter Assistant Superintendent for Curriculum and Instruction	All areas of the junior high school curriculum were mapped in the 1981-82 school year. The project involved about 105 courses in six junior high schools serving approximately 4,000 students in grades 9-12. Data was compiled by computer program on weekly sheets filed by 146 junior high school teachers.

CURRICULUM MAPPING

Mrs. Priscilla Alden
teacher

Pleasant Hills Elementary School

Fifth
grade

Social Studies

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	We begin our social studies work with the early explorers and colonizers of the New World. Chief among these were the Portuguese explorers Diaz, Cabral and Vasco de Gama. Later we study Columbus and the Spanish explorers such as Vasco Balboa, Magellan, Cortes, Pizarro, de Soto and Coronado. Later we examine the impact and development of Jamestown and Plymouth Bay. Some attention is given to the Massachusetts Bay Colony.			TIME* A 1
	CONCEPTS	SKILLS	ATTITUDES	
	-To arrive at a conceptual understanding of the forces which created the need for exploration and colonization of the New World -Understanding the vast diversity of the colonists	-Be able to recite by heart "The Courtship of Miles Standish" by H. W. Longfellow -Identify major United States landforms and regions -Develop "family tree"	-By recreating the first Thanksgiving in 1921 to come to respect the cause of human freedom -Awareness that cultural patterns are altered to fit a new environment	TOTAL TIME B
	TIME .10	TIME .40	TIME .50	1
TOPIC OR UNIT	GEOGRAPHY I do very little with maps in the fifth grade. Children really get into this heavily in the seventh grade anyway. We do one landform map exercise in the text.			TIME A .30
	CONCEPTS	SKILLS	ATTITUDES	
	-To understand the basic landforms of the United States such as location of plains, hills, mountains, etc.	-Be able to trace from the text and represent the major landforms on a map which is provided by the teacher	-To appreciate the basic landform structure of the United States	TIME B
	TIME .05	TIME .20	TIME .05	.30
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE My study of U.S. City Life requires the students to do case studies of at least two major figures in municipal reform: Charles Yerkes in Chicago and Tom L. Johnson of Cleveland. We also study public ownership of utilities.			TIME A .70
	CONCEPTS	SKILLS	ATTITUDES	
	-Cleanup of corrupt cities was not only the result of a change in the form of city government but the result of dynamic leadership emerging at the proper time	-Learn the essential elements of a case study -Be able to write in exposition form in clear sentences -Be able to draw conclusions from premises	-Appreciation of the necessity for strong leadership in times of trouble -Awareness of the fact that form must match the challenge of government	TIME B
	TIME .25	TIME .40	TIME .05	.70
	TOTAL TIME .40	TOTAL TIME 1.00	TOTAL TIME .60	2.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

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CURRICULUM MAPPING

Ms. Alice Gaun
teacher

Pleasant Hills Elementary School

Fifth
grade
Social Studies

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	Fifth grade social studies in my class concentrates on the explorers of our nation. We touch upon the early explorers such as de Gama, Cabral and Columbus. We spend some time on Pizarro and Cortes and move rapidly to the Western Explorers such as Daniel Boone, Lewis and Clark, Bill Cody and the California Gold Rush. We also study key legislation that led to Western exploration and expansion such as the Homestead Act and its implications for settling the United States.			TIME* A 3
	CONCEPTS	SKILLS	ATTITUDES	
	-Understand the difficulties and hardships faced by the early explorers -Understand the forces which led to Western exploration and the Oregon Territories	-Use the encyclopedia to locate information -Uses and interprets source material to classify motives of Western explorers	-Awareness of the extreme hardships faced by the explorers -Awareness of the relationship between economics and exploration	TOTAL TIME B
	TIME 1.00	TIME 2.50	TIME .50	3
TOPIC OR UNIT	GEOGRAPHY To learn geography my students do salt/flour relief maps of the United States. On these they indicate major cities. We do not use political maps, but do engage in the construction of timelines showing historical events of selected periods.			TIME A 1.50
	CONCEPTS	SKILLS	ATTITUDES	
	-Understand multiple events and their interactions via multiple timelines -Obtain a "feel" for the geographical features of the United States	-Be able to locate information and locate it on a timeline -Use contour maps -Be able to mix salt and flour to construct relief maps	-Awareness that geography and history are related -Appreciation for the hardships people suffer in extreme climates or rough, unexplored country	TIME B
	TIME .40	TIME 1.00	TIME .10	1.50
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE My unit on city life is concerned with the types of city government. It includes the city commission form of government and the city manager plan of Dayton, Ohio. We also study the TVA project and the founding of the NAACP by William DeBois.			TIME A .50
	CONCEPTS	SKILLS	ATTITUDES	
	-Understanding of the evolution of city government forms, from the corrupt forms like Tammany Hall to later forms that developed in Galveston like the commission form	-Be able to draw charts indicating the various forms of city government and the necessary functions of government -Recount important events in the TVA evolution	-Respect for the type of processes which led to reform of corrupt forms of city government -Awareness of the role of NAACP in upgrading the improvement of life	TIME B
	TIME .15	TIME .30	TIME .05	.50
	TOTAL TIME 1.55	TOTAL TIME 3.80	TOTAL TIME .65	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

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CURRICULUM MAPPING

Mrs. Kathy McClean
teacher
Fifth
grade
Social Studies

Pleasant Hills Elementary School

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	My fifth grade social studies program begins with the early explorers of our nation. These include the Portuguese explorers and Columbus. We study the conquest of Mexico and the Incas. We examine the evolution of religious freedom in the United States by studying Lord Baltimore's development of Maryland and the Act of Toleration of 1649. We also model for a week a "mock" House of Burgess of Virginia. We also set up a unit on the old Southern Plantation and its economy.			TIME* A 4
	CONCEPTS	SKILLS	ATTITUDES	
	-Understand the impact on the New World of the Puritan Migration of 1629-40 -Understand the trails of Roger Williams in moving to Rhode Island	-Be able to write stories based on the explorations -Be able to use the necessary resources to do good seat work -Work with other students in the House of Burgess	-Develop respect for the diversity of opinions about life and religion -Awareness of the need for a proper forum for dialogue to occur about sensitive issues	TOTAL TIME B
	TIME 1.50	TIME 2.00	TIME .50	4
TOPIC OR UNIT	GEOGRAPHY I teach the geography of the United States by working with four different kinds of maps: relief, landform, political, and historical. The students work in committees and develop one of each for a time period they select.			TIME A .50
	CONCEPTS	SKILLS	ATTITUDES	
	-Understand the use of time belts -Use longitude and latitude to locate cities and places -Understand the International Date Line	-Use string to measure distances on the globe -Make time estimates of how long it will take to reach a place by various methods	-Awareness of the need for international agreement on dates and time -Awareness of the need for uniformly understood map symbols	TIME B
	TIME .20	TIME .25	TIME .05	.50
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE My study of city life involves an analysis of five great American cities: New York, Chicago, Los Angeles, Boston and New Orleans as to quality of life, schools, jobs, problems, newspapers, law enforcement and history.			TIME A .50
	CONCEPTS	SKILLS	ATTITUDES	
	-Due to the linkages between cities by modern transportation and, problems are very similar despite geographical distances involved	-Ability to use a variety of contemporary periodical literature and categorize in report form as required	-Awareness that modern problems in the cities are indeed complex and are not resolved by dealing with possible solutions in isolation from each other	TIME B
	TIME .10	TIME .35	TIME .05	.50
	TOTAL TIME 1.80	TOTAL TIME 2.60	TOTAL TIME .60	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

U3/1/83

CURRICULUM MAPPING

Mr. Henry Morgan
teacher

Pleasant Hills Elementary School

Fifth
grade
Social Studies

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	My fifth grade class examines the Exploration of the United States from the perspective of the major wars of Europe and their impact on colonization. We begin with the War of League of Augsburg which was King William's War of 1689-1697, followed by Queen Anne's War 1702-1713, King George's War from 1744-1748, the French and Indian War from 1754-1763, the American Revolution from 1775-1783.			TIME* A 3.60
	CONCEPTS	SKILLS	ATTITUDES	
	-Students will understand that the colonists were but pawns on a European chessboard -Early American leaders had war experience, viz. French and Indian War	-Students will be able to graph the major events of each war -Students will write case studies of major leaders on each side of the wars -Students will do a family tree	-Awareness of the fact that events in America must be seen in the context of larger war events -Appreciation between land and sea powers, i.e., Britain and France	TOTAL TIME B
	TIME 1.15	TIME 2.00	TIME .45	3.60
TOPIC OR UNIT	GEOGRAPHY Geography is studied in my class as it relates to the major features of the critical battlefields of the wars included in social studies. We also do military maps showing the movement of troops.			TIME A 1.00
	CONCEPTS	SKILLS	ATTITUDES	
	-Understands the relationship between geography and the different types of battles and military strategy employed	-Be able to develop troop movements from verbal descriptions of the battles -Use geographical symbols appropriately and show proper landform areas	-Appreciation and respect for the rigors of battle and their importance in American History	TIME B
	TIME .30	TIME .60	TIME .10	1.00
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE This unit in my fifth grade class largely consists of following the activities of Martin Luther King in the development of non-violent resistence in desegregation activities beginning in Montgomery, Alabama, up to the time of his death.			TIME A
	CONCEPTS	SKILLS	ATTITUDES	
	-Understanding between violent and non-violent means for problem resolution -Understanding of the impact of the Civil Rights Movement on current life	-Draw maps of Civil Rights movement in the South, the "freedom riders" -Develop graphs of the rate of desegregation in parts of the country	-Appreciation for the impact on non-violent means to achieve a set of desired ends -Appreciation for the courage of Martin L. King	TIME B
	TIME .10	TIME .25	TIME .05	.40
	TOTAL TIME 1.55	TOTAL TIME 2.85	TOTAL TIME .60	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

04/1/83

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CURRICULUM MAPPING

Mr. Tad Wright
teacher

Pleasant Hills Elementary School

Fifth
grade
Social Studies

THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY

TOPIC OR UNIT

U.S. History in my class consists of a major unit on how the nation was founded and colonized. Students are asked to explain the forces and impact of the territorial growth of the United States including the Louisiana Purchase, Gadsden Purchase, Mexican Cession and the Oregon Territories. They also study the exploration routes of early explorers and come to understand the realities of life in the early colonies.

TIME* A 2.00

CONCEPTS	SKILLS	ATTITUDES	
-Students will understand the economic base of tobacco in the early English Colonies -Understand the forces that led to territorial expansion	-Be able to trace on a map the routes of Diaz, de Gama, Magellan, de Soto, Cortes, Pizarro and Cabot -Can trace one's roots in chart form, "family tree" -can develop charts	-Students come to appreciate the hardships of the colonists at Jamestown and the Pilgrims at Plymouth Bay -Understand the impact of bringing of slaves to United States	TOTAL TIME B
TIME .70	TIME 1.00	TIME .30	2.00

TOPIC OR UNIT

GEOGRAPHY
My class does a political map of the various territories showing the expansion of the United States from 1783 to the Mexican Cession of 1848 and the Gadsden Purchase of 1853. We also learn some basic landform features of the United States.

TIME A 1.00

CONCEPTS	SKILLS	ATTITUDES	
-Understanding of the basic political consolidation of the United States from 1783 to 1853 -Knowledge of major rivers, mountains, plains of the United States	-Be able to locate the key political boundary lines leading to expansion -Develop an historical timeline of multiple events showing territorial expansion	-Awareness that the United States grew incrementally and was not "hatched" in its current political form -Awareness of the relationship between political and geographical features	TIME B
TIME .48	TIME .50	TIME .02	1.00

TOPIC OR UNIT

CONTEMPORARY U.S. CITY LIFE
We study the breakdown of city government in the period of the muckrakers, 1890 to 1910, the rise of political machines, and the crusade for municipal reform. We do a case analysis of Boss Tweed and Tammany Hall in New York.

TIME A 2.00

CONCEPTS	SKILLS	ATTITUDES	
-Be able to correctly use such words as "graft," "patronage," and "loyalty" -Explain the role of a precinct captain in a political machine	-Set up a correct procedure to insure an uncorrupted election process -Set up a "mock" recall procedure for a set of corrupt officials	-Appreciate the need for reforms in city government revealed by the muckrakers -Acquire negative attitudes towards "graft" and "patronage"	TIME B
TIME .25	TIME 1.65	TIME .10	2.00
TOTAL TIME 1.43	TOTAL TIME 3.15	TOTAL TIME .42	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

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EXERCISE TWO (A LATERAL ANALYSIS OF THE CURRICULUM)

From the fifth grade social studies curriculum maps of Pleasant Hills Elementary School, do an inclusion/exclusion task analysis of the curriculum. Place it in the prepared matrix below. Hypothetical test data has already been entered into the matrix. If the teacher taught the topic or area put an "X" in the blank. If the teacher did not teach the area/topic put a "0."

TOPIC OR AREA	TEACHERS						DISTRICT TESTING PROGRAM Areas of Test Items		
	Alden	Gaun	McClean	Morgan	Wright	TOTAL	Skills	Concepts	Attitudes
1. Portuguese Explorers							1	2	0
2. Columbus							0	2	0
3. Spanish Explorers							0	2	1
4. Jamestown Colony							0	2	1
5. Plymouth Bay							0	1	1
6. Massachusetts Bay Colony							1	1	0
7. Recite poem "The Courtship of Miles Standish"							0	0	0
8. Recreate the First Thanksgiving Day							0	0	0
9. Western Explorers							1	1	0
10. California Gold Rush							0	0	0
11. Religious Freedom (Lord Baltimore)							0	1	0
12. House of Burgess							0	1	0
13. Southern Plantation							0	1	1
14. Puritan Migration							0	1	0
15. Roger Williams							0	1	0
16. Major European and American Wars							0	0	0
17. Family Tree							0	0	0
18. United States Landforms							0	1	0
19. Territorial Growth of the United States							1	1	1
20. Slavery							0	1	0
TOTALS							3	19	4

PLEASE ANSWER THESE QUESTIONS

(1) How many of the topics listed were taught by all five teachers? _____

(2) Which fifth grade teacher taught the most of the topics listed? _____

(3) Which fifth grade teacher taught the least number of the topics? _____

(4) Which topics were taught be at least three of the five teachers? _____

(5) What part (percentage) of the fifth grade curriculum consists of singletons (a measure of its variance)? _____

(6) Which of the topics are included on the district test but are not being taught by at least three of the five teachers? _____ (percentage)

(7) Which of the topics are being taught by at least three of the five teachers that are not included on the district test? _____ (percentage)

06/1/83